

1-1-2008

DEP Fact Sheet: Combined Sewer Overflows in Maine

Maine Department of Environmental Protection

Maine Bureau of Land and Water Quality

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Recommended Citation

Maine Department of Environmental Protection and Maine Bureau of Land and Water Quality, "DEP Fact Sheet: Combined Sewer Overflows in Maine" (2008). *Land and Water Quality Documents*. Paper 7.
http://statedocs.maine.gov/lwq_docs/7

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DEP FACT SHEET

Combined Sewer Overflows in Maine

Updated: January 2008

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What is a “Combined Sewer Overflow”?

Combined Sewer Overflows (CSOs) are discharges of untreated wastewater from municipal sewage systems that carry mixtures of sanitary sewage, storm water, and sometimes industrial wastes.

When do CSOs happen?

Discharges from CSOs occur during and shortly after rain events or snowmelt. Flows within the combined sewer system during these wet weather events can be as high as fifty (50) times the normal dry weather flows.

Why do CSOs happen?

During rain events and snowmelt, large volumes of storm water entering the combined sewer system through catch basins, old and leaky pipes, roof drains, cellar drains, sump pumps, and other sources of runoff cause the capacity of the sewer system to be overwhelmed.

Certain places in the sewer system are designed as relief points to allow the excess untreated wastewater to be discharged to waterways. These relief points are designed to reduce treatment facility upsets, street flooding, and back-ups into basements which can cause significant public health hazards.

Why do CSOs exist?

When many collection systems for sanitary sewage and storm water in Maine were first constructed many decades ago, the two separate sources were combined for cost and ease of construction. These combined systems conveyed wastewater directly to lakes, streams, rivers, and the ocean for disposal without treatment, and when it rained, these systems simply carried the storm water along with sanitary sewage directly to the water bodies. The initial construction of these so-called “combined sewers” were a huge improvement over the open ditches filled with raw sewage that were prevalent at that time, and led to significant public health improvements. Eventually, however, due to public awareness of the declining water quality of the streams, rivers, and oceans, the federal Clean Water Act (CWA) was enacted in 1972. The CWA required the construction of “interceptor sewers” to send the untreated wastewater to newly built treatment plants before discharging treated wastewater to our waterways. At that point in time, the primary concern was getting the wastewater to the treatment plant on a daily basis. Because of the economics involved and the difficulty of handling widely variable volumes during rain storms, the interceptor sewers, pumping stations, and the treatment plant were not built large enough to handle all of the combined storm water and sanitary sewage for larger storm events resulting in overflows.

What are the impacts of CSOs?

In large communities, hundreds of millions of gallons per year of untreated combined sanitary sewage and storm water may be discharged resulting in an annual State wide discharge of approximately 1.5 to 3 billion gallons. Because they discharge untreated combined sewage containing solid debris, bacteria, and sometimes industrial pollutants, CSOs impair the quality of the receiving waters closing shellfish harvesting areas and beaches and occasionally threatening drinking water supplies.

How widespread are CSOs in Maine?

Currently in Maine there are 34 communities with CSO discharge points in their sewage systems. These communities collectively have 171 individual CSO discharge points. The frequency of discharges varies greatly from community to community, ranging from seldom to often in response to all but the smallest rain storms.

How are CSOs regulated?

The Maine Department of Environmental Protection (DEP) issues CSO wastewater discharge licenses to affected communities, requires implementation of Best Management Practices (BMPs), development of a long term control plan to eliminate or abate their overflows, and submission of an annual CSO progress report. The progress report documents the community's efforts to comply with the BMPs and progress in their CSO abatement program.

What is being done to eliminate CSOs?

All of Maine's affected communities have completed or are working on comprehensive CSO plans. Communities and the DEP work together developing abatement or elimination plans containing schedules to implement those plans based on the information submitted in the plans. Communities are required to secure money and implement their plan, or face possible enforcement actions. Abatement and elimination projects have reduced untreated discharges statewide by about 50% since 1989. Ten CSO communities have eliminated their CSO discharges and are no longer permitted to discharge untreated combined sewage during wet weather.

Statewide, the communities with CSOs have invested a total of \$346 million since 1989 (\$33 million in 2006 alone) for CSO abatement and expect to spend approximately \$139 million in the next five years. After that, the expected cost to bring them into compliance is an additional \$100 to \$150 million.

If I see a CSO, what should I do?

Not all pipes that you see discharging to waterways are CSOs -- some are strictly storm water and do not have any sanitary sewage in them. For public awareness and safety, active CSO discharge pipes are required to be clearly marked with a green sign with white lettering stating the municipality's name, the CSO identification number, and that there is a "Wet Weather Sewage Discharge". CSOs should be discharging only during wet weather events such as rain or snowmelt. The public should avoid water contact in the area of CSOs if they are discharging or you suspect they might have been discharging within recent days.

How can I support CSO elimination or reduction in my community?

Get involved and let public officials know your concerns. CSO reduction and elimination takes time and can be expensive. Support local and State bond referendums that provide funding for CSO projects and maintenance of wastewater infrastructure.

Where can I get more information on CSOs?

The Department of Environmental Protection's CSO web site has a lot of information and links. Go to www.MaineDEP.com, Keyword "CSO".

If you have specific questions about Maine's program, call David Breau at 207-287-7766, toll free at 1-800-452-1942, e-mail him at david.p.breau@maine.gov, or write him at the Maine Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017.